

Filtek™ Supreme Ultra universal restorative material

Project #2012-003

Filtek™ Supreme Ultra is a new resin composite by 3M ESPE with unique nanofiller technology. Formulated with nanomer and nanocluster filler particles, the composite is purported to combine the strength of a hybrid and the polish of a microfil. Nanomers are discrete nonagglomerated particles of 20-75 nm in size.

Nanoclusters are loosely bound agglomerates of nano-sized particles. The agglomerates act as a single unit, the company claims, enabling high filler loading and high strength. Most shades contain a combination of non-agglomerated 20-nm nanosilica filler and aggregated zirconia/silica nanocluster (primarily 5-20nm) filler. The cluster particle size range is 0.6 to 1.4 microns. The filler loading is 79% by weight. The combination of nanomer-sized particles and the nanocluster formulations reduces the interstitial spacing of the filler particles. This reportedly provides increased filler loading, better physical properties and improved polish retention when compared to composites containing only nanoclusters. The resin monomer system is the same as found in Filtek™ Z250 with BisGMA, BisEMA, UDMA and small amounts of TEGDMA.

The composite is available in 30 different shades in 4 opacities (dentin, body, enamel and translucent) and is purportedly suitable for anterior and posterior restorations, core build-ups, splinting, and indirect restorations, including inlays, onlays and veneers. A shade selection wheel is provided for more complex restorations and serves as a guide for placing anywhere from one to four layers of composite.



Manufacturer:

3M Dental Products Division
3M Center, Bldg 275-2SE-03
St. Paul, MN 55144-1000
(800) 237-1650
(612) 733-8524
(800) 888-3132 FAX
<http://www.3mespe.com>

Suggested Retail Price:

\$291.65 Filtek™ Supreme Professional Kit, (item no. 3911P) contains:

- one hundred 0.20-g capsules, 10 each of shades A2B, A2D, A2E, B2B, B3E, C3B, B1E, WB, WE, A3B
- one 4-g syringe each of shades GT, YT
- one Shade Selector Wheel

Government Price:

\$183.80 Filtek™ Supreme Professional Kit (item number and contents as listed above)

\$ 82.67 Filtek™ Supreme Ultra refill/bottle of 20 capsules

ADVANTAGES:

- + Favorable handling characteristics and esthetics
- + Ease of polish/retention
- + Handled very well without being too sticky
- + Good compressive strength and fracture resistance
- + Good color match/chameleon effect
- + Flowable is available in both syringe and capsules

DISADVANTAGES:

- Flowable in capsule form is difficult to control amount
- Improve B Shade
- High cost

- DVD on how to use multishades

SUMMARY AND CONCLUSIONS:

3M ESPE Filtek™ Supreme Ultra Universal Restorative was readily accepted by evaluators. Eighty-one percent of evaluators rated it Outstanding or Excellent. They felt that it had favorable handling characteristics and esthetics, an ease of polish with good polish retention, handled very well without being too stick, had impressive compressive strength and fracture resistance, and provided a good color match with a chameleon effect. Laboratory evaluation rated it favorably for flexural strength, Knoop hardness, degree of conversion and surface roughness. **3M ESPE Filtek™ Supreme Ultra Universal Restorative** is rated **Excellent** for use in US Air Force dental facilities.

